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A Comparative Study on Attitude of Existing Teachers and Future Teachers on the Integration of Sex Education in Higher Secondary School Curriculum

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Abstract: This study investigates and compares the attitudes of existing teachers (higher secondary school teachers) and future educators (B.Ed. trainees) toward sex education in the Indian educational context. Recognising sex education as a vital component of holistic adolescent development, the research explores how professional experience, pedagogical exposure, and socio-cultural factors influence educators' perceptions. For this, using the means, standard deviation, and finding the difference between the two groups, the t-value is calculated as well. The summary of Results is: 1. Existing Teachers (Higher Secondary School (HSS)) Teachers vs. Future Teachers (B.Ed. Teacher Trainees (TT)): existing teachers exhibit a more positive attitude toward the integration of sex education in the curriculum of higher secondary school compared to future teachers (TT), indicating greater acceptance among existing educators. 2. Gender-Based Comparison (Male vs Female): Female teachers showed a less positive attitude than male teachers in both groups—existing teachers and future teachers, suggesting that gender may influence openness toward sex education. These findings highlight the influence of professional experience and gender on educators' attitudes toward integrating sex education into the higher secondary school curriculum.

Key Words: Existing Teachers (Higher Secondary School Teachers, HSS), Future Teachers (B.Ed. Teacher Trainees, TT), Sex Education, Higher Secondary School (12th class) Curriculum.

Introduction: In a rapidly evolving global landscape, comprehensive sex education has emerged as a crucial component of holistic youth development. The study aimed to provide knowledge to young people with accurate and positive attitudes and essential life skills to navigate sex awareness and reproductive health safely. Particularly in countries like India, where cultural sensitivity is a traditional value, and a prevalent culture of silence often creates barriers to open discussions about sexuality. The absence of comprehensive and accurate information can lead to misinformation, risky behaviours, unintended pregnancies, and the spread of sexually transmitted infections, including HIV, AIDS, among adolescents. Existing teachers (Higher secondary school teachers) play an essential role in shaping the knowledge, attitudes, and moral values of young individuals. Consequently, the approach and disposition of teachers, who serve as key facilitators of education, are paramount to the effective delivery of sex education.

However, the implementation of sex education programs often encounters several challenges, including societal resistance, insufficient training for educators, and diverse parental and community attitudes. Both higher secondary school teachers and parents hold significant influence in shaping students' perspectives, making their roles essential in the development of an effective and culturally sensitive sex education curriculum. While teachers are on the frontline of imparting formal knowledge, parents act as primary socializing agents—together, they play a crucial role in shaping students' beliefs and determining the acceptance and impact of socially driven educational initiatives.

This comparative study aims to explore and contrast the attitudes of higher secondary school teachers and B.Ed. Teacher Trainees towards sex education. By examining their levels of comfort, perceived benefits, and concerns, the research seeks to identify shared viewpoints as well as areas of divergence. The findings will provide a valuable viewpoint about sex education in higher secondary schools—highlighting areas of alignment that can foster collaborative efforts, and areas of difference that require targeted interventions and constructive dialogue. Ultimately, this study aspires to contribute to a more nuanced understanding of the factors influencing the successful integration and acceptance of comprehensive sex education, thereby paving the way for improved health outcomes and the empowerment of adolescents.

Need for the study: This study focuses on ensuring that existing (HSS) teachers who are already engaged in teaching, and future teachers of B.Ed., are well-equipped and confident in addressing topics related to sex education. When teachers possess both knowledge and confidence, they can integrate sex education effectively into the school curriculum, treating it as a natural and essential subject, just like any other core area of learning.

Teenagers are at a stage in life where their bodies are undergoing significant changes, and they naturally become curious about relationships and sexuality. If they do not receive accurate and age-appropriate information from reliable sources, they may turn to peers who might be misinformed, or to the Internet, which can sometimes offer misleading or harmful content. This lack of proper guidance can lead to serious consequences, including unintended pregnancies, the transmission of HIV, AIDS, and other sexually transmitted infections, and increased vulnerability to exploitation and abuse.

The goal is to embed sex education within the broader framework of inclusive education. This approach ensures that all students know the information that is relevant to their lives. Sex education is not limited to biological aspects; it encompasses understanding healthy relationships, body awareness, responsible decision-making, and personal safety.

Related Studies: Recent studies reveal a positive attitude among higher secondary school teachers and B.Ed. teacher trainees toward the implementation of sex education and inclusive education. Sahari (2024) found that teachers in West Bengal demonstrated a highly positive stance on sex education, recognising its role in holistic human development and advocating for its integration despite cultural sensitivities. The study emphasised that gender and locality (urban vs. rural) did not significantly affect these attitudes. Similarly, Kalita (2023) studied teachers' views on integration of sex education, and the results revealed that most of the higher secondary school teachers have above-average attitudes toward integrating sex education into the children's curriculum. The findings highlighted gender-based differences, with female teachers showing slightly more favourable views. These studies underscore the evolving mindset of educators who increasingly support comprehensive, inclusive pedagogies that address both sexual health and learning needs.

In one more study, it was found that a positive attitude in existing teachers of higher secondary school was found in the Gabharu block of Sonitpur District. The study has the same result as the study conducted by Khan (2011), Jain, Kalita, and Malakar (2015). In all studies, a moderate level of attitude was found in higher secondary school teachers about the integration of sex education in the curriculum.

Delimitation of the study:

- The study is limited to existing Higher Secondary Schools and Future Teachers from B.Ed. colleges.
- The study is limited to the Bhilai area of Durg district.
- The study has been conducted only on higher secondary school (HSS) teachers and teacher trainees (TT).
- A sample has been selected by a random sampling technique.

Problem: A Comparative Study on the Attitudes of Existing Teachers (HSS) and Future Teachers (B.Ed. Teacher Trainees) towards the Integration of Sex Education in the Higher Secondary School Curriculum (12th class).

Objectives:

- To measure the difference in the attitude of existing teachers and Future teachers on the integration of sex education in the higher secondary school curriculum.
- To measure the difference in the attitudes of existing male teachers and existing female teachers of HSS on the integration of sex education in the higher secondary school curriculum.
- To measure the difference in the attitudes of Future male teachers and future female teachers on the integration of sex education in the higher secondary school curriculum.
- To measure the difference in the attitudes of existing male teachers and future male teachers on the integration of sex education in the higher secondary school curriculum.
- To measure the difference in the attitudes of existing female teachers and future female teachers on the integration of sex education in the higher secondary school curriculum.

Hypotheses:

H1 There will be no significant difference in the attitude of existing teachers and future teachers on the integration of sex education in the higher secondary school Curriculum.

H2 There will be no significant difference in the attitudes of existing male teachers and existing female teachers on the integration of sex education in the higher secondary school curriculum.

H3 There will be no significant difference in the attitude of future male teachers and future female teachers on the integration of sex education in the higher secondary school curriculum.

H4 There will be no significant difference in the attitude of existing male teachers and future male teachers on the Integration of Sex education in the higher secondary school curriculum.

H5 There will be no significant difference in the attitude of existing female teachers and future female teachers on the integration of sex education in the higher secondary school curriculum.

Method: Sample: Data were collected using a simple random sampling technique. The study included a total of 100 existing teachers (higher secondary school teachers) and 100 future teachers (B.Ed. teacher trainees).

Table 1
Sample from Higher Secondary School

S. No	Name of School	Sample		
		Male	Female	Total
1.	Indu IT School	10	10	20
2.	Shri Sankar Vidyalaya	10	10	20
3.	Sharda Vidyalaya	00	20	20
4.	Guru Nanak Higher Secondary School	10	10	20
5.	B.S.P. Higher Secondary School, Sector-10	10	10	20

Grand total	40	60	100
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The existing higher secondary school (HSS) teachers were selected from the institutions listed in the above table. A total of 100 teachers participated in the study, consisting of 40 male and 60 female respondents.

Table 2

Sample of Colleges from Durg and Bhilai

S.No	Name of the college	Sample		
		Male	Female	Total
1	Bhilai College of Information Technology	10	10	20
2	Rungta College of Science and Technology	10	10	20
3	Uday College	10	10	20
4	MJ College	00	20	20
5	Shiva College	10	10	20
Grand total		40	60	100

The teacher trainees (TT) of B.Ed. were selected from the colleges listed in the table above. A total of 100 B.Ed. teacher trainees participated in the study, consisting of 50 males and 50 females.

Variables: In the present research, existing HSS teachers and future teachers of B.Ed. trainees served as the independent variables, while their attitudes towards the integration of sex education in the higher secondary school curriculum served as the dependent variable.

Table 3

Description of variables, Tool and statistical Analysis

Variable	Indep0endence Variable	Existing Teachers (Teacher of a Higher Secondary School), Future Teachers (B.Ed. Teacher Trainees)
	Dependent Variable	Attitude towards the integration of sex education in the higher secondary school curriculum
Tool	Self-made tool	
Statistical analysis	Mean, Standard Deviation and t-Value	

Instrument: To initiate the integration of sex education in the higher secondary school curriculum, various dimensions of the activity were first identified. Based on these dimensions, a scale was developed and subsequently presented to experts in the fields of education and psychology. These experts evaluated the relevance and appropriateness of each item. In light of their comments, necessary modifications and refinements were made.

A self-constructed tool was developed to assess the attitudes of existing HSS teachers and future TT regarding the integration of sex education in the higher secondary school curriculum. The base of the instrument is a five-point Likert-type rating scale, with response categories assigned as follows: 5 marks for "Strongly Agree," 4 marks for "Agree," 3 marks for "Indefinite," 2 marks for "Disagree," and 1 mark for "Strongly Disagree." The Sex Attitude Test contained a total of 27 statements, which were designed to capture various dimensions of respondents' perspectives. The scale was administered to existing teachers of higher secondary schools and future teachers.

To assess the face validity, the questionnaire was reviewed by professors, teachers, and students, and their feedback was positive. Following data collection and calculations, reliability analysis was conducted using the split-half method. The Cronbach's Alpha coefficient was found to be 0.65, and the Spearman-Brown coefficient was 0.68, indicating acceptable internal consistency of the tool.

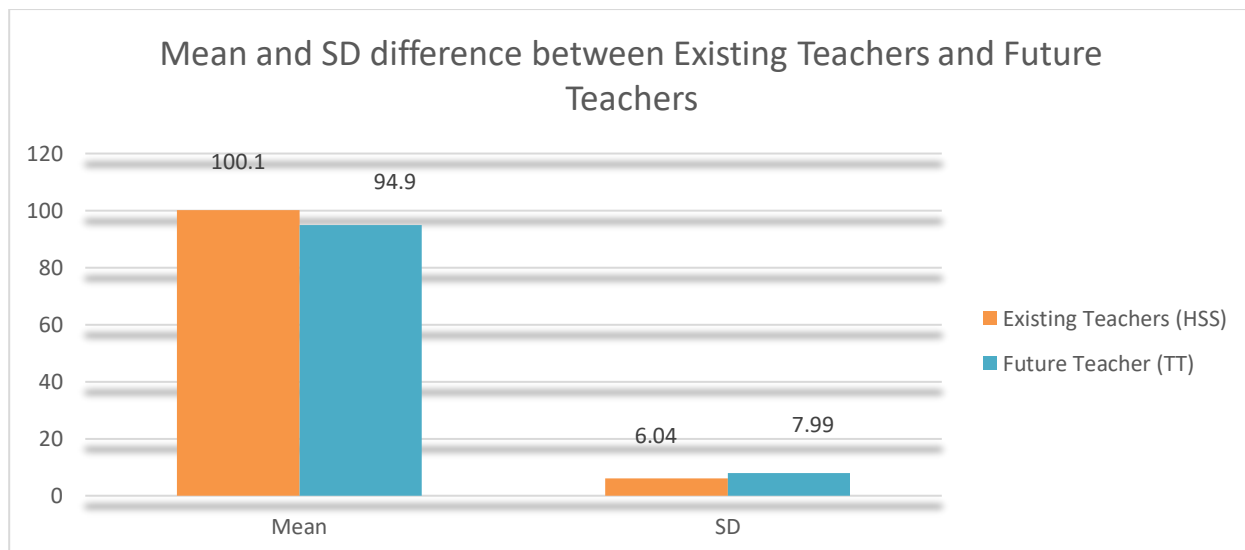
Data Collection: The tool was administered to existing teachers and future teachers who were selected as the sample for the study. Prior to administration, formal permission was obtained from the principals of the respective schools and colleges. The tool was then distributed to the participants, along with clear instructions for completion. Their responses were recorded using the five-point rating scale. Participants who secured higher scores were interpreted as having a more positive attitude towards the integration of sex education in the higher secondary school curriculum.

Statistical Analysis: Based on the responses obtained through the self-constructed attitude assessment tool, data were systematically collected from the selected sample of existing teachers and future teachers. To analyse the data, statistical techniques were employed. Specifically, the mean and standard deviation were calculated to understand the central tendency and variability of attitudes within each group. Furthermore, the independent samples t-test was applied to determine whether there were statistically significant differences in attitudes (dependent variable) between the two groups (independent variables). This comparative analysis helped to assess the extent to which the type of respondent—Existing teachers or Future teachers—influenced their attitude towards the integration of sex education in the higher secondary school curriculum.

Table 4

Statistical difference showing the attitude of Existing teachers and Future teachers on the integration of sex education in the higher secondary school Curriculum.

Group	N	Mean	SD	t-Value
Existing Teachers (HSS)	100	100.1	6.04	5.168
Future Teacher (TT)	100	94.9	7.99	
Note: df =198, p<0.01, Significant Difference				



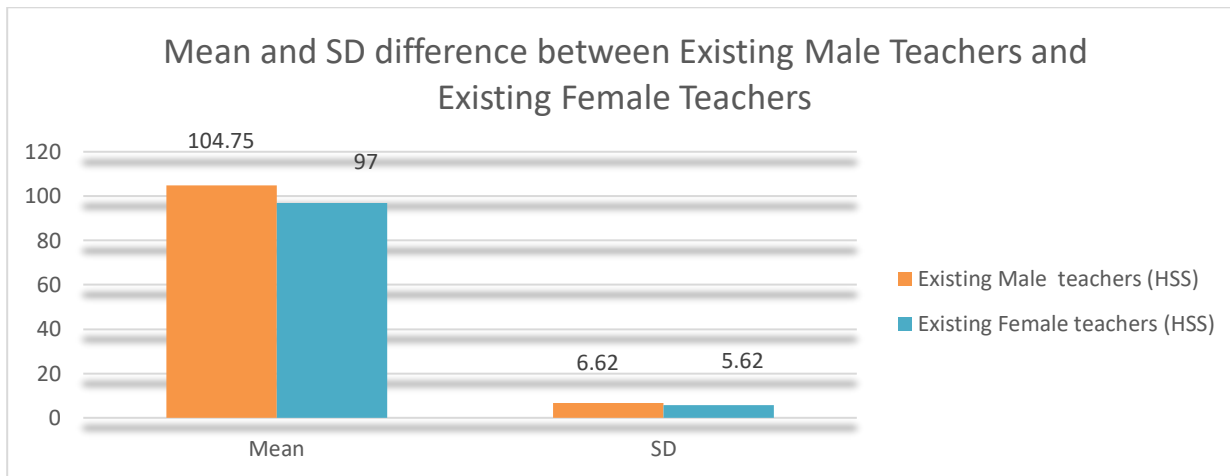
The data presented in the above-mentioned table and graph indicate that the mean attitude score of existing teachers towards sex education is 100.1, with a standard deviation of 6.04. In comparison, the mean attitude score of future teachers is 94.9, with a standard deviation of 7.99. To examine the significance of

the difference between the two groups, the t-test was conducted. The calculated t-value was 5.168, which is significant at the $p < 0.01$ level. This result indicates a statistically significant difference in attitudes between existing teachers and future teachers regarding the integration of sex education in the higher secondary school curriculum. So, the null hypothesis was rejected, that there is no significant difference in the attitudes of the two groups on the integration of sex education in the higher secondary school curriculum.

Table 5

There will be no significant difference in the attitudes of existing male teachers and existing female teachers on the integration of sex education in higher security school curriculum.

Group	N	Mean	SD	t- value
Existing Male teachers (HSS)	40	104.75	6.62	6.27
Existing Female teachers (HSS)	60	97	5.62	
Note: df=98, p<0.01, Significant Difference				

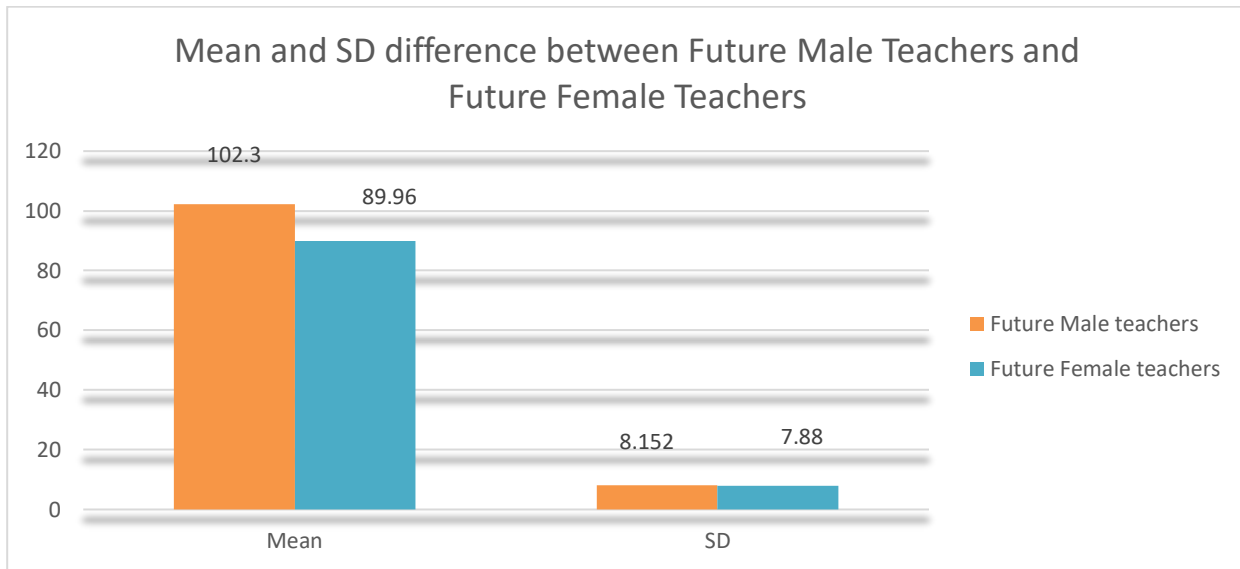


The above-mentioned table and graph revealed that the mean score of existing male teachers' attitudes towards sex education is 104.75, and the mean score of existing female teachers' attitudes towards sex education is 97, with SDs of 6.62 and 5.62, respectively, and the t-value is 6.27, which is significant at $df=98$, $p < 0.01$. The observed t-value is higher than the table value ($0.01=2.63$). So, the null hypothesis, that there is no significant difference in the attitudes of the two groups on the integration of sex education in the higher secondary school curriculum, was rejected.

Table 6

There will be no significant difference in the attitudes of Future Male Teachers and Future Female Teachers on the integration of sex education in the higher secondary school curriculum.

Group	N	Mean	SD	t- Value
Future Male Teachers	40	102.3	8.152	7.55
Future Female Teachers	60	89.96	7.88	
Note: df = 98, p<0.01, Significance difference				



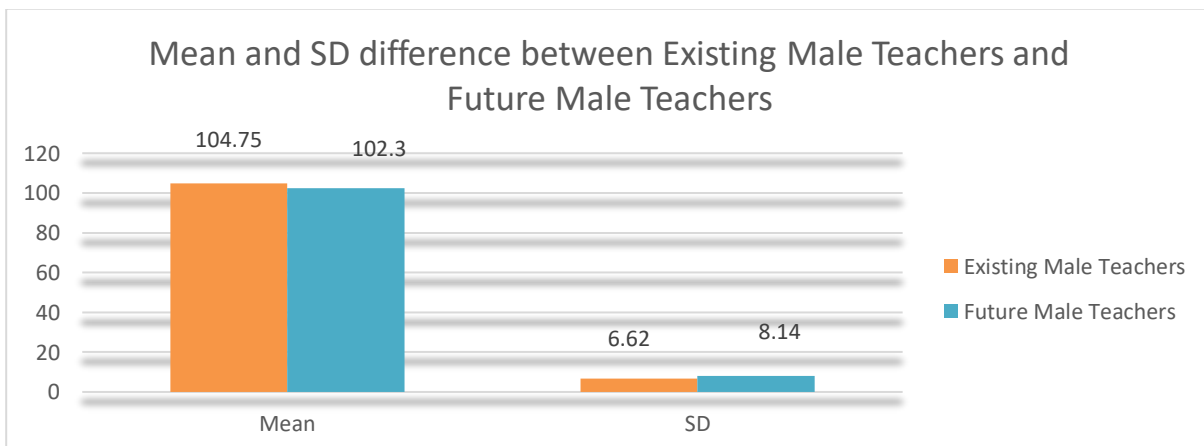
The above-mentioned table and graph revealed that the mean score of male teacher trainees' attitude towards sex education is 102.3, and the mean score of female teacher trainees' attitude towards sex education is 89.96. Their SDs are respectively 8.152 and 7.88. Which is significant at $df=98$, $p<0.01$, level of significance, because the observed t-value is higher than the table value ($0.01=2.63$). So, the null hypothesis, which states that there is no significant difference between the two groups in the integration of sex education in the higher secondary school curriculum, was rejected.

Table 7

There will be no significant difference in the attitudes of existing male teachers and Future male teachers on the integration of sex education in the higher secondary school curriculum.

Group	N	Mean	SD	t- Value
Existing Male Teachers	40	104.75	6.62	1.46
Future Male Teachers	60	102.3	8.14	

Note: $df = 98$, $p>0.05$, No Significance different

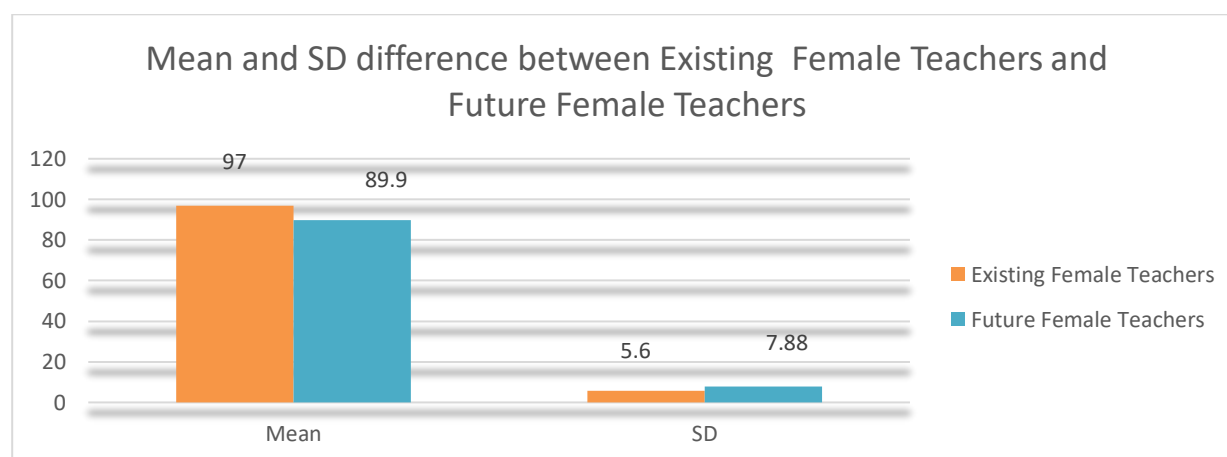


The above-mentioned table and graph show that the mean score of existing male teachers' attitude towards sex education is 104.75, and the mean score of future male teachers' attitude towards sex education is 102.3. Their SDs are 6.62 and 8.14, respectively. the t-value was 1.46, which is not significant at $df=98$. $p>0.05$. The observed t-value is lower than the table value ($0.05=1.97$). Thus, our proposed hypothesis that there will be no significant difference in the attitudes of the two groups on the integration of sex education in the higher secondary school curriculum was accepted

Table 8

There will be no significant difference in the attitudes of existing female teachers and future female teachers on the integration of sex education in higher security school curriculum.

Female teachers on the integration of sex education in higher secondary school curricula				
Group	N	Mean	SD	t- Value
Existing Female Teachers	40	97	5.6	5.5
Future Female Teachers	60	89.90	7.88	
Note: df = 98, p<0.01, Significant difference				



The above-mentioned table and graph show that the mean score of existing female teachers' attitude towards sex education is 97, and the mean score of future female teachers' attitude towards sex education is 89.90. Their SDS are 5.6 and 7.88, respectively. The t-value is 5.5, which is significant at $df=98$, $p<0.01$. The observed t-value is higher than the table value ($0.01=2.63$). Thus, our proposed hypothesis that there will be no significant difference in the attitudes of the two groups on the integration of sex education in the higher secondary school curriculum was rejected.

Discussion:

The comparative analysis reveals the differences in attitudes toward the integration of sex education in the higher secondary school curriculum across educator groups. Firstly, the finding that existing teachers showed a more positive attitude than future teachers suggests that professional experience and direct engagement with adolescent learners may foster a deeper appreciation for the relevance and necessity of sex education. This could be attributed to their firsthand exposure to students' developmental challenges and behavioural concerns, which reinforces the importance of informed, age-appropriate sexual health education.

Secondly, the observation that existing male teachers and future male teachers demonstrate a more favourable attitude than their female counterparts may reflect gendered perceptions of comfort and openness in discussing sexual topics, potentially influenced by societal norms and role expectations. However, when comparing with existing female teachers and future female teacher trainees, the results

indicate that existing female professionals show a more positive attitude than future female teachers. This is because the existing teachers in higher secondary schools are more mature and also have a lot of classroom experience, which may result in fewer hesitations and a more open attitude often seen in existing higher secondary schools' teachers than in future B.Ed. teachers.

Lastly, the consistent pattern wherein both existing male and female teachers show more positive attitudes than their respective future teacher trainee counterparts underscore the role of experiential learning and institutional exposure in shaping educators' readiness for sex education. These findings collectively highlight the need for targeted interventions in teacher education programs, emphasising sensitisation, curriculum integration, and pedagogical training to bridge attitudinal gaps and prepare future educators for inclusive, student-centred teaching.

Conclusion:

The findings of this study underscore a critical attitudinal divide between existing higher secondary school teachers and future teachers of B.Ed. regarding the integration of sex education in the curriculum. The attitude about sex education is a more positive outlook among in-service existing educators across both male and female groups. The study suggests that professional exposure, classroom realities, and pedagogical maturity significantly influence topics such as sex education.

This divergent result highlights an urgent need to strengthen future teacher education programs by responsive training on sex education. By doing this, the future educators are equipped with the confidence and competence to address adolescent health, well-being and a more inclusive and informed learning environment. Bridging this attitudinal gap is vital for ensuring that sex education is not merely a curricular addition but a transformative tool for holistic student development in higher secondary schools. This gendered disparity showed the urgent need for inclusive sex education, scientifically grounded training for all future teachers and trainees of B.Ed., and ensuring that sex education is delivered with sensitivity, accuracy, and cultural relevance.

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